

REMARKS

Claims 1, 2, 5, and 6 are pending in this application.

In an Advisory Action mailed 27 August 2007, the Examiner maintained the rejection of claims 1, 2, 5, and 6 under 35 USC 103(a) as being unpatentable over Applicants' admitted prior art drawing of Figure 5 in view of U.S. Patent No. 6,023,724 issued to Bhatia ("the Bhatia Patent") and further in view of U.S. Patent Application Publication No. 2002/0116523 by Warrier ("the Warrier Publication"). In a telephone conference on 17 September 2007, the Examiner discussed the insertion of the term "unique" into the independent claims in order to distinguish Applicants' invention from the prior art. Independent claims 1 and 5 have been amended to include this terminology.

Applicants' network address translation system operates in a Global System for Mobile Communications network and isolates internal IP traffic from external IP traffic in the Inter-Working Function (IWF) of a Global System for Mobile Communications network by assigning dual unique IP addresses for every port of the Inter-Working Function Protocol Engine. The Inter-Working Function Protocol Engine includes one or more Ethernet Ports, each of which is assigned a unique private IP address, to connect the Inter-Working Function Protocol Engine to the Ethernet Switch as well as a unique public IP address of the customer's network, used to connect the Inter-Working Function Protocol Engine to L2TP Network Server. The addresses are static and, therefore, every port has both a unique public IP address and a unique private IP address which are used to enable access from external to the network and internal to the network, respectively. These addresses are selectively used as defined in Applicants' independent claims:

A network address translation system for isolating internal IP traffic from external IP traffic in the Inter-Working Function of a Global System for Mobile Communications network, comprising:

network means for interconnecting an Inter-Working Function Protocol Engine and an Inter-Working Function Management System, located in said Inter-Working Function, and a network server for processing external IP traffic with an external data communication network;

internal IP address means for assigning each port of said Inter-Working Function Protocol Engine with a unique private IP address for use exclusively on said network means;

external IP address means for additionally assigning each of said ports of said Inter-Working Function Protocol Engine with a unique public IP address for access from a source located external to said Inter-Working Function; and

routing means for routing data transmissions received at said network means and associated with a port of said Inter-Working Function Protocol Engine to a destination identified by said data transmissions comprising;

address means for appending said assigned unique public IP address to said data transmission as a source address when said port of said Inter-Working Function Protocol Engine is a source of said data transmissions for transmission to said network server, and for appending said assigned unique private IP address to said data transmission as a source address when said port of said Inter-Working Function Protocol Engine is a source of said data transmissions for transmission to said Inter-Working Function Management System.

Thus, each port can use its unique private/public IP address as a function of the destination of the data transmission, with a return message being directed to this IP address, thereby preventing sites external to the Inter-Working Function from accessing the private IP addresses.

Existing wireless network configurations isolate internal IP traffic from external IP traffic in the Inter-Working Function (IWF) of a Global System for Mobile Communications network, but not via the use of dual IP addresses for every port in the Inter-Working Function Protocol Engine. In particular, the Inter-Working Function is used to process both customer-based Internet traffic and Operations, Administration, Maintenance, and Provisioning functions; and these functions should not be accessible via a public Internet address while the customer-based Internet presence is accessible via a public Internet address. Existing systems use both hardware and software to separate the two types of IP traffic within the Inter-Working Function (IWF) of a Global System for Mobile Communications network, as shown in the prior art of Applicants' Figures 3 – 5; however, none of these show or suggest a system where each port can use its unique private/public IP address as a function of the destination of the data transmission, with a return message being directed to this IP address, thereby preventing sites external to the Inter-Working Function from accessing the private IP addresses.

The cited Bhatia Patent discloses an ISDN LAN modem that is suited for small user environments and which contains an internal ISDN router having a self-contained network hub for inter-connecting multiple network devices, such as workstations, to each other through a local area network, and for permitting each of those devices to each gain access through the router to any one of

a number of different remote networks. The LAN modem communicates network failure messages to a host workstation connected to the LAN by intercepting and responding to various DNS (domain name system) messages issued by that workstation and intended for a remote DNS server. Specifically, the LAN modem supplies its own network (IP) address in response to these messages, thus assuming a role of both a remote DNS server and a remote web server in order to implement a mechanism through which a fault-specific web page can be dynamically constructed and downloaded to the workstation for subsequent display, through a browser executing thereat. The page, once rendered, provides a specific message pertinent to the failure.

The Warrier Publication discloses a system for sending a data packet through a network. The network has public and private realms separated by an interface device. A client in the private realm performs the method. The method includes determining if a destination address of the data packet corresponds to the private realm or to the public realm and retrieving a source address for the client based on the destination address of the packet. The method also includes assigning a retrieved address to be the source address of the data packet.

Applicants' independent claims recite the assignment of unique private IP addresses to all of the ports of the Inter-Working Function Protocol Engine for use exclusively in communicating with the Inter-Working Function Management System and concurrently assigning unique public IP addresses to ports of the Inter-Working Function Protocol Engine for communicating with destinations external to the system. The prior art teaches that all devices are assigned private IP addresses, and a single public IP address is shared among all of the ports.

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Application No. 10/674,157
Amendment dated September 19, 2007
After Final Office Action of June 21, 2007

Docket No.: 013436.0278PTUS

In view of the above amendments and remarks, Applicants believe the pending application is in condition for allowance. A Request For Continued Examination and the appropriate fee are filed with this response. If any additional fee is due, please charge our Deposit Account No. 50-1848, under Order No. 013436.0278PTUS from which the undersigned is authorized to draw.

Respectfully submitted,
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